

Remarks

Reconsideration is requested in view of the preceding amendments and the following remarks. Claims 40-46, 49 and 56-59 are pending, and new claims 60-64 are submitted for consideration. Upon entry of this Amendment, claims 40-46, 49, 56-59 and 60-64 are in the application.

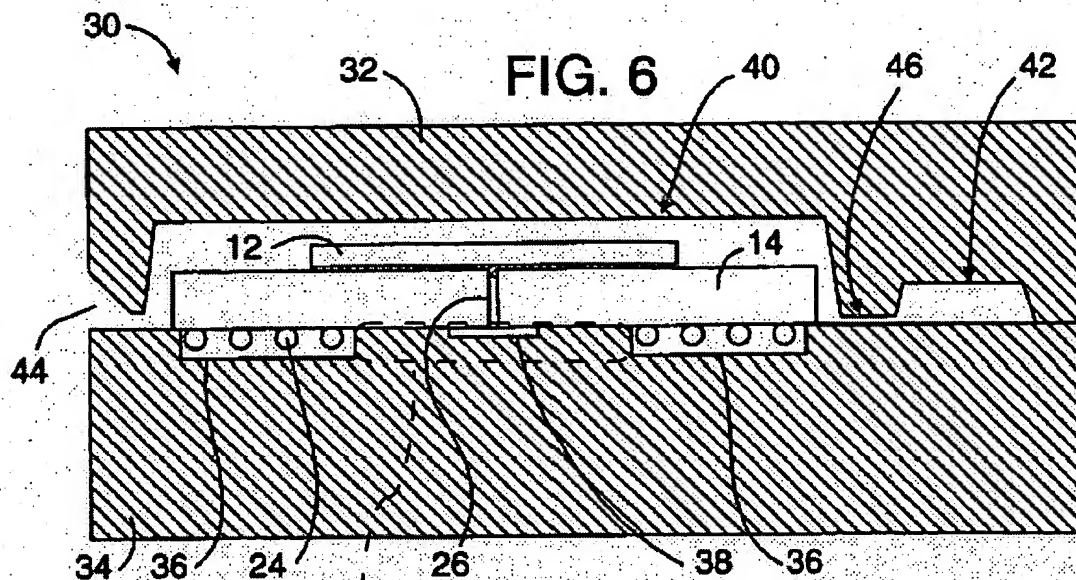
The Examiner objected to the drawings and noted that reference numerals 406, 411 and 413 of Fig. 4 appear in the figures, but not in the description. Accordingly, the specification has been amended to incorporate these numerals. Additional numerals referenced in the description but not appearing in the Figures have been added in two replacement drawing sheets. No new matter is introduced. In view of the amendment, the objection to the drawings should be withdrawn, and such action is respectfully requested.

Support for the amendments to the claims and for the new claims can be found in the specification at, for example: page 6, line 25 to page 7, line 2; page 7, lines 18-22; page 8, lines 18-22; page 10, lines 15-16; and Figs. 5A and 5B. No new matter is introduced.

Claim 41 was indicated as being allowable if amended to recite all features of the base claim and any intervening claim. Claim 41 has been so amended, and thus claim 41 and new dependent claims 60-64 are properly allowable. Such action is respectfully requested.

Claim 49 stands rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. This rejection is respectfully traversed. Claim 49, as amended, recites “A mold for packaging a *plurality* of die bonded to a substrate . . . wherein the first mold portion and the second mold portion define package covers and ribs for the *plurality* of die. . .” (emphasis added). The claim particularly points out and distinctly claims the subject matter of the invention. The rejection should be withdrawn, and such action is respectfully requested.

Claims 40, 42-46, 49 and 56-59 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Pat. No. 6,038,136 to Weber (“Weber”). This rejection is respectfully traversed. Claim 40 recites, in part, a mold for packaging at least one die bonded to a substrate, the mold comprising “a second mold portion that defines a rib having a thickness at least as great as a solder bump thickness. . . .” In the Action, the Examiner includes an annotated version of Fig. 6 from Weber. The Examiner states that the region of bottom half 34 between cavities 36 is a “rib area, which extends from the substrate.” This is incorrect.



This area is not a "rib area, which extends from the substrate," but a mold portion that contacts the substrate 14 and prevents mold material from contacting the substrate in this region, and thus this area prevents formation of a rib.

As shown in Fig. 6, bottom half 34 contacts substrate 14 such that it is unable to define as part of a package a rib having a thickness at least as great as a solder bump thickness. As shown in Figs. 7 and 8 of Weber, cavities 36 likewise do not define ribs, as they do not fill with mold compound. In contrast, cavity 419 in Fig. 4 of the Application, for example, "defines a rib" in that the product of the mold features a rib such as rib 130 in Fig. 3 of the Application. As further shown in Figs. 4 and 5 of Weber, the molds of Weber do not create a product with a rib having a thickness at least as great as a solder bump thickness because the molds do not define such a rib. Applicants respectfully disagree with the Examiner's statement that "the arguments to whether the complete device shown by Weber are similar to that of the completed device that may be made by the applicant's mold are not relevant." A product of a mold inherently reflects the features of the mold. Therefore, the completed device shown by Weber is relevant to showing the features of Weber's mold. Accordingly, Weber fails to teach, suggest or provide any motivation for the mold recited in claim 40, and thus claim 40 and dependent claims 42-46 are properly allowable over Weber for at least these reasons. The rejection should be withdrawn, and such action is respectfully requested.

Claim 49 recites, in part, "A mold for molding a package of a plurality of die . . . the mold comprising . . . a second mold portion that defines one or more ribs . . . wherein the one or

more ribs defined by the second mold portion have a thickness at least as great as a solder ball thickness.” As explained above with respect to claim 40, Weber does not teach, suggest or provide any motivation for such a feature. For at least these reasons, claim 49 is properly allowable over Weber, and the rejection should be withdrawn. Such action is respectfully requested.


Claim 56 recites, in part, “A mold for molding a package for at least one die . . . the mold comprising . . . a second mold portion that defines a rib having a thickness at least as great as a solder bump thickness. . . .” As explained above with respect to claim 40, Weber does not teach, suggest or provide any motivation for such a feature. For at least these reasons, claim 56 and dependent claims 57-59 are properly allowable over Weber, and the rejection should be withdrawn. Such action is respectfully requested.

Applicants note that the Supplemental Information Disclosure Statement mailed on April 8, 2005, has not been acknowledged by the Examiner. Applicants respectfully request that the Examiner consider and initial the statement.

In view of the preceding amendment and remarks, all pending claims are in condition for allowance, and action to such end is requested. If any issues remain, the Examiner is requested to call the undersigned attorney.

Respectfully submitted,

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